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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,388	09/11/2003	Kyung Chan Park	1740-000057/US	3783

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EXAMINER

JONES, CRYSTAL L

ART UNIT	PAPER NUMBER
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2627

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/659,388	Applicant(s) PARK, KYUNG CHAN	
	Examiner Crystal Jones	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 7, line 26, "Lead-Out" should be changed to --Lead-In--.

On page 9, line 8, "01" should be changed to --"10"--.

Appropriate correction is required.

Claim Objections

2. Claims 3 and 4 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 3, dependent on claim 1, recites "rewritable optical disc" whereas the disc in claim 1 is a "read-only optical disc". Hence, claim 3 could be infringed without infringing on claim 1.

Claim 4, dependent on claim 3, recites two discs, one as a "rewritable optical disc" whereas claim 3 only claims one disc.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 and 5-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Shim et al. (U.S. Publication 2004/0114481).

Regarding claim 1, Shim et al. disclose a high-density read-only optical disc (Fig. 4; see also [0037]) including a Lead-In area (Fig. 4, element 10), a data area (Fig. 4, element 13), and a Lead-Out area (Fig. 4, element 15), comprising: the Lead-In area including a specific area (Fig. 5, element 10a) having a straight pit-shaped line (Fig. 4, element 8) created by repeated marks and spaces, wherein either one of the mark or the space is recorded with a minimum pit length (minimum pit length is $2T$, see [0043] lines 16-22; and marks or spaces may have a length of $2T$, see [0049] lines 14-20).

Regarding claim 2, Shim et al. disclose the disc as set forth in claim 1, wherein the specific area contains principal information of the high-density read-only optical disc (Fig. 5, element 10a; also see [0039]).

Regarding claim 3, Shim et al. disclose the disc as set forth in claim 1, wherein the specific area is an area corresponding to a PIC (Permanent Information & Control data) area, contained in a Lead-In area of the high-density rewritable optical disc, for permanently storing principal disc information (Fig. 5, element 10a; the area corresponds to information that is not modified, see [0039]).

Regarding claim 5, Shim et al. disclose the disc as set forth in claim 1, wherein the mark and the space are repeatedly recorded in a predetermined recording period (Figs. 6A and 6B, "P") with different unique pit lengths (Figs. 6A and 6B, lengths $6T$ and $3T$) according to a data value representing the recording period (Figs. 6A and 6B, data value "0" or "1").

Regarding claim 6, Shim et al. disclose the disc as set forth in claim 5, wherein sum of pit lengths of each pair of the mark and the space is constant, irrespective of a representative data value of the recording period (see Figs. 6A and 6B; for the first and second periods with data value "0" the pit lengths sum are each 6T and the third period with data value "1", the pit lengths sum is $3T+3T=6T$).

Regarding claim 7, Shim et al. disclose a method for reproducing data stored in an optical recording medium, comprising the steps of: a) reading data recorded in a Lead-In area ([0059]) in the form of pre-pits associated (Fig. 4, element 8) with a bi-phased HFM (High Frequency Modulated) groove (see Figs. 6A and 6B; frequency is $1/P$); and b) reproducing data recorded in a user information area by referring to the read data (see [0059]).

Regarding claim 8, Shim et al. disclose the method as set forth in claim 7, wherein the pre-pits are arranged in the form of a straight line (Fig. 4, element 8 is arranged in a straight line).

Regarding claim 9, Shim et al. disclose the method as set forth in one of claim 7, wherein the data recorded in the Lead-In area is read by a servo operation, and the data recorded in the user information area is read by the same servo operation as said servo operation (Data is reproduced using the same sum-channel method; see [0061]).

Regarding claim 10, Shim et al. disclose the method as set forth in one of claim 9, wherein the servo operation is a DPD (Differential Phase Detection) method (the sum channel method of [0061]).

Regarding claim 11, Shim et al. disclose a method for recording data in an optical recording medium, comprising the steps of: a) recording data in a Lead-In area in the

form of pits (Fig. 4, element 8) associated with a bi-phased HFM (High Frequency Modulated) groove (see Figs. 6A and 6B; frequency is $1/P$); and b) recording user data in the form of straight pits in a user information area (Fig. 4, element 18 is arranged in a straight line).

Regarding claim 12, Shim et al. disclose the method as set forth in claim 11, wherein the pits are arranged in the form of a straight line (Fig. 4, elements 8 and 18 are arranged in a straight line).

Regarding claim 13, Shim et al. disclose an optical recording medium, comprising: a Lead-In area in which data is recorded in the form of pre-pits (Fig. 4, element 8) associated with a bi-phased HFM (High Frequency Modulated) groove (see Figs. 6A and 6B; frequency is $1/P$); and a user information area in which data is recorded in the form of straight pre-pits (Fig. 4, element 18 is arranged in a straight line).

Regarding claim 14, Shim et al. disclose the medium as set forth in claim 13, wherein the pre-pits recorded in the Lead-In area are arranged in the form of a straight line (Fig. 4, element 8 is arranged in a straight line).

Regarding claim 15, Shim et al. disclose the medium as set forth in claim 13, wherein the pre-pits recorded in the Lead-In area contain predetermined marks and spaces (see marks and spaces of Figs. 6A and 6B), and either one of the mark or the space is configured with a minimum pit length (minimum pit length is $2T$, see [0043] lines 16-22; and marks or spaces may have a length of $2T$, see [0049] lines 14-20).

Regarding claim 16, Shim et al. disclose an apparatus (Fig. 8) for reproducing data stored in an optical recording medium, comprising: a servo unit (servo unit not

shown but must be present to perform the sum channel method as described in [0061]) for reading data recorded in a Lead-In area in the form of pre-pits (Fig. 4, element 8) associated with a bi-phased HFM (High Frequency Modulated) groove (see Figs. 6A and 6B; frequency is $1/P$), and reading data (Fig. 8, element 520) recorded in a user information area in the form of straight pre-pits (Fig. 4, element 18 is arranged in a straight line) by referring to the data read from the Lead-In area (Lead-In area contains critical storage medium-related information; see Fig. 5, element 10a); and a control unit (Fig. 8, element 510) for controlling the servo unit.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (U.S. Patent 6,934,236) in view of Veenis et al. (U.S. Patent 4,949,332).

Regarding claim 1, Lee et al. disclose a high-density read-only optical disc (Fig. 1, element 1000; Blu-ray disc, see Col. 8, lines 27-32) including a Lead-In area (Fig. 1, element 10), a data area (Fig. 1, element 15), and a Lead-Out area (see Col. 5, lines 8-10), comprising: the Lead-In area including a specific area (disc-related information of Fig. 1, element 10-5; see also Col. 5, lines 36-47) having a pit created by repeated marks and spaces (Fig. 2B), wherein either one of the mark or the space is recorded with a minimum pit length (Col. 6, lines 18 and 19).

Lee et al. fail to disclose a specific area of a Lead-In area having a straight pit-shaped line.

Veenis et al. disclose a specific area of a Lead-In area having a straight pit-shaped line (see Fig. 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lead-In area of Lee et al. with on having a straight pit-shaped line as disclosed in Veenis et al.

Motivation for such combination is to allow for depth modification and better servo operation (Veenis et al., Col. 5, lines 34-44 and 56-60)

Regarding claim 2, Lee et al. disclose the disc as set forth in claim 1, as in the obvious combination above, wherein the specific area contains principal information of the high-density read-only optical disc (Fig. 1, element 10-5).

Regarding claim 3, Lee et al. disclose the disc as set forth in claim 1, as in the obvious combination above, wherein the specific area is an area corresponding to a PIC (Permanent Information & Control data) area, contained in a Lead-In area of the high-density rewritable optical disc, for permanently storing principal disc information (Fig. 1, element 10-5; see also Col. 6, lines 3-12).

Regarding claim 4, Lee et al. disclose the disc as set forth in claim 3, as in the obvious combination above, wherein the high-density read-only optical disc is a BD-ROM (Blu-ray Disc ROM), and the high-density rewritable optical disc is a BD-RE (Blu-ray Disc Rewritable) (Col. 8, lines 27-32).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to

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applicant's disclosure. Morizumi et al. (U.S. Patent 6,614,736).

Morizumi et al. disclose an optical disc with high recording density in which the Lead-In area has wobbled grooves according to a bi-phased modulation but fails to disclose a Blu-ray Disc with marks and spaces repeatedly recorded within a predetermined recording period.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal Jones whose telephone number is 571-272-2849. The examiner can normally be reached on Monday through Friday, 8:30 a.m. to 6 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER

CJ